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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,627	10/17/2003	Hiroshi Katoh	040356-0492	8894

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FOLEY AND LARDNER
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

HOANG, JOHNNY H

ART UNIT PAPER NUMBER

3747

DATE MAILED: 06/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/686,627	Applicant(s) KATOH ET AL.	
	Examiner Johnny H. Hoang	Art Unit 3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/17/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Inventorship

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshioka et al (US 6,116,227).

Regarding claim 1, the reference of Yoshioka et al discloses fuel injection control device for a spark ignition engine having a fuel injector (3) in an intake port (14) including the following subject matters:

an engine rotation speed sensor detecting an engine rotation speed (col. 5, lines 35-40);
and

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a programmable controller programmed to:

calculate a basic injection amount of fuel (col. 5, lines 41-43);

calculate a target fuel injection amount by correcting the basic fuel amount in response to the trend in variation of the engine rotation speed (col. 5, lines 41-63); and

control a fuel injection amount of the fuel injector to the target fuel injection amount (col. 5, lines 61-63).

Regarding claim 2, the reference of Yoshioka et al further discloses the controller is further programmed to determine whether or not the engine is in a startup state, and when the engine is not in a startup state, to prevent the basic fuel amount from being corrected in response to the trend in variation of the engine rotation speed (col. 9, line 31 through col. 10, line 7).

Regarding claim 3, the reference of Yoshioka et al further discloses the engine is an engine for driving a vehicle which comprises a starter switch for cranking the engine, and the controller is further programmed to determine that the engine is in the startup state when the starter switch is ON (Fig. 14 and col. 18, lines 22-57).

Regarding claim 4, as above rejections.

Regarding claims 5-6, as discussed in claim 1.

Regarding claim 7, the reference of Yoshioka et al further discloses the engine rotation speed sensor comprises a crank angle sensor (7) which detects variation in a crank angle of the engine and the first signal comprises a signal corresponding to a unit crank angle and the second signal comprises a signal corresponding to a predetermined crank angle (col. 8, lines 51-64).

Regarding claims 8-16, as above discussions.

Regarding claims 17-18, as discussed in the fuel injection device of claim 1.

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Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The copies of U.S Patent are provided.

Takizawa et al (US 6,292,730 B1), Okamoto et al (US 6,192,307 B1), Yoshioka (US 5,852,998) and Shirakawa (US 5,706,780).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johnny H. Hoang whose telephone number is (703) 308-2782. The examiner can normally be reached on Monday - Thursday (7:00Am-5: 30Pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Yuen can be reached on (703) 308-1946. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JHH
June 19, 2004

Johnny H. Hoang
Examiner
Art Unit 3747

Willis R. Wolfe
Willis R. Wolfe
Primary Examiner
Art Unit 3747